

Abstract

Disclosed herein are novel methods and materials for selecting transgenic cells. Specifically exemplified herein are positive selection methods that involve conferring to cells the ability to metabolize certain compounds, preferably arabitol, ribitol, raffinose, sucrose, mannitol or combinations thereof. Accordingly, transformed cells can be selected by simply subjecting them to a medium containing such compounds. The subject invention alleviates the disadvantages and concerns of negative selection methods, such as the unnecessary killing of transformed cells and the dispersal of potentially harmful genes (e.g., antibiotic or herbicide resistant genes) into the environment. Furthermore, novel nucleotide sequences relating to the E. coli rti operon and arabitol dehydrogenase gene, and amino acid sequences relating to the gene products thereof are disclosed.